What is claimed is:

1. An image processing method for obtaining processed image data by carrying out tone correction processing on image data obtained by a digital camera, the image processing method comprising the steps of:

carrying out pre-processing according to a model of the digital camera on the image data to absorb a model tone characteristic of the digital camera of the model by using a model tone characteristic profile of the digital camera; and

obtaining the processed image data by carrying out automatic exposure control processing and/or automatic white balance processing followed by the tone correction processing on the image data on which the pre-processing has been carried out.

2. An image processing method as defined in Claim 1, wherein information indicating the model of the digital camera is added to the image data obtained by the digital camera.

3. An image processing method as defined in Claim 1, wherein information indicating the model of the digital camera can be input manually.

4. An image processing method as defined in Claim 1, wherein a default model tone characteristic profile is used in the case where information indicating the model of the digital camera is not available.

5. An image processing method as defined in Claim 1, wherein the image data obtained by the digital camera are

compressed and the pre-processing is carried out after the image data are decompressed.

6. An image processing method as defined in Claim 1, wherein the image data obtained by the digital camera can be received via a network.

7. An image processing method as defined in Claim 1, wherein image data on which the tone correction processing is carried out are image data obtained by carrying out reduction processing on the image data obtained by the digital camera.

8. An image processing apparatus for obtaining processed image data by carrying out tone correction processing on image data obtained by a digital camera, the image processing apparatus comprising:

storage means for storing model tone characteristic profiles corresponding to models of digital cameras;

input means for inputting information indicating a model of the digital camera that obtained the image data;

model tone characteristic absorption means for selecting one of the model tone characteristic profiles corresponding to the model of the digital camera from the storage means based on the information indicating the model of the digital camera input from the input means, and for carrying out pre-processing to absorb a model tone characteristic of the digital camera on the image data by using the model tone characteristic profile;

exposure and/or white balance correction means for carrying out automatic exposure control processing and/or

automatic white balance processing on the image data on which the pre-processing has been carried out; and

tone correction means for carrying out the tone correction processing on the image data obtained by the exposure and/or white balance correction means.

9. An image processing apparatus as defined in Claim 8, wherein the information indicating the model of the digital camera is added to the image data obtained by the digital camera and the input means reads the information indicating the model of the digital camera added to the image data obtained by the digital camera.

10. An image processing apparatus as defined in Claim 8, wherein the input means enables manual input of the information indicating the model of the digital camera.

11. An image processing apparatus as defined in Claim 8, wherein the storage means stores a default model tone characteristic profile, and the model tone characteristic absorption means carries out the pre-processing by using the default model tone characteristic profile in the case where the information indicating the model of the digital camera is not available.

12. An image processing apparatus as defined in Claim 8, wherein the image data obtained by the digital camera are compressed and the image processing apparatus further comprises decompression means for decompressing the image data for provision for the pre-processing.

13. An image processing apparatus as defined in Claim 8, further comprising reception means for enabling reception of the image data obtained by the digital camera via a network.

14. An image processing apparatus as defined in Claim 8, wherein image data on which the tone correction processing is carried out are image data obtained by carrying out reduction processing on the image data obtained by the digital camera.

15. A computer-readable recording medium storing a program to cause a computer to execute an image processing method for obtaining processed image data by carrying out tone correction processing on image data obtained by a digital camera, the program comprising the procedures of:

carrying out pre-processing according to a model of the digital camera on the image data to absorb a model tone characteristic of the digital camera of the model by using a model tone characteristic profile of the digital camera; and

obtaining the processed image data by carrying out automatic exposure control processing and/or automatic white balance processing followed by the tone correction processing on the image data on which the pre-processing has been carried out.

16. A tone conversion table generation method for generating tone conversion tables used at the time of obtaining processed image data by carrying out tone conversion processing on image data obtained by a digital camera, the tone conversion table generation method comprising the step of:

using a model tone characteristic profile representing a tone characteristic of the digital camera that obtained the image data.

17. A tone conversion table generation method as defined in Claim 16, wherein the model tone characteristic profile is generated based on data obtained by relating values of logY obtained from digital camera RGB values corresponding to gray patches obtained by photographing a gray chart with the digital camera in different photographing conditions and logarithmic luminance values obtained by logarithmic conversion of luminance values obtained by measuring the gray patches in the gray chart in the different photographing conditions.

18. A tone conversion table generation method as defined in Claim 17, wherein the digital camera RGB values corresponding to the gray patches are found according to the steps of generating image data sets by photographing the gray chart with the digital camera in the different photographing conditions while changing an exposure condition from overexposure to underexposure, selecting one of the image data sets whose brightest gray patch has a difference from a second-brightest gray patch thereof and is not saturated but most overexposed, and finding the digital camera RGB values corresponding to the gray patches from the selected image data set.

19. A tone conversion table generation method as defined in Claim 17, wherein the model tone characteristic profile is an approximation curve based on data obtained by relating

luminance values obtained by measuring luminance of the gray patches in the gray chart in the different photographing conditions and the values of logY obtained in the same photographing conditions.

20. A tone conversion table generation method as defined in Claim 18, wherein the model tone characteristic profile is an approximation curve based on data obtained by relating luminance values obtained by measuring luminance of the gray patches in the gray chart in the different photographing conditions and the values of logY obtained in the same photographing conditions.

21. A tone conversion table generation method as defined in Claim 17 wherein the photographing conditions include at least one of conditions comprising flash on/off conditions, sensitivity, and a type of a photographing light source.

22. A tone conversion table generation method as defined in Claim 18 wherein the photographing conditions include at least one of conditions comprising flash on/off conditions, sensitivity, and a type of a photographing light source.

23. A tone conversion table generation method as defined in Claim 17, wherein the model tone characteristic profile is used as a model tone characteristic profile corresponding to a color G and model color characteristic profiles corresponding to colors R and B are generated based on differences between R and G and between B and G.

24. A tone conversion table generation method as defined

in Claim 18, wherein the model tone characteristic profile is used as a model tone characteristic profile corresponding to a color G and model color characteristic profiles corresponding to colors R and B are generated based on differences between R and G and between B and G.

25. A model color characteristic profile generation method comprising the steps of:

obtaining image data for setting color correction parameters by using a digital camera;

carrying out correction of a model tone characteristic of the digital camera on the image data for setting the color correction parameters with reference to a model tone characteristic profile used for correcting the model tone characteristic of the digital camera; and

generating a model color characteristic profile by setting the color correction parameters for approximately correcting a model color characteristic of the digital camera represented in the image data for setting the color correction parameters on which the correction of the model tone characteristic has been carried out.

26. A model color characteristic profile generation method as defined in Claim 25, wherein the model color characteristic profile is to correct at least one of lightness, chroma, and hue of at least one color.

27. A model color characteristic profile generation method as defined in Claim 25, wherein the image data for setting

the color correction parameters are obtained by photographing

Macbeth Color Checker with the digital camera.